

## CLAIMS

1-59 (Canceled)

60. (New) A medical prosthesis, including:

a prosthesis structure including an interbraiding of a plurality of strands, said strands including elastically and plastically deformable structural strands formed of metal, each structural strand having a nominal shape when in a relaxed state under no external stress and being elastically deformable away from the nominal shape, each structural strand further being adapted to be altered to acquire a selected nominal shape different from an original nominal shape in response to a controlled plastic deformation treatment prior to interbraiding, wherein the structural strands when in their selected nominal shapes form windings having tubular profiles; and

wherein the structural strands further have selected orientations within the prosthesis structure to impart to the prosthesis structure a tubular predetermined nominal configuration corresponding to said tubular profiles.

61. (New) The prosthesis of claim 60 wherein:

the strands of said interbraiding further include a plurality of textile strands more compliant than the structural strands, interbraided with the structural strands, supported by the structural strands, occupying interstices between adjacent structural strands, and cooperating to form a textile sheeting that prevents any substantial leakage of body fluids including blood.

62. (New) The prosthesis of claim 60 wherein:

the selected nominal strand shape of each structural strand is helical.

63. (New) The prosthesis of claim 60 wherein:

the structural strands cooperate to form a latticework including first and second sets of helices running in respective first and second opposite directions.

64. (New) The prosthesis of claim 60 wherein:

said structural strands are formed of a metal selected from the group consisting of: stainless steel, an alloy including cobalt, and an alloy including titanium.

65. (New) The prosthesis of claim 64 wherein:

the structural strands are formed of a cobalt-chromium-molybdenum alloy.

66. (New) The prosthesis of claim 60 wherein:

the structural strands are monofilaments.

67. (New) The prosthesis of claim 61 wherein:

said textile strands are multifilament yarns' formed of a material selected from the group consisting of: PET, polypropylene, polyurethane, polycarbonate urethane, HDPE, polyethylene, silicone, PTFE, ePTFE, and polyolefin.

68. (New) The prosthesis of claim 61 wherein:

said interbraiding of the structural strands and the compliant textile strands consists essentially of a single layer.

69. (New) An implantable device, including:

a prosthesis structure including an interbraiding of a plurality of strands, said strands including elastically and plastically deformable structural strands formed of metal, each structural strand having a nominal shape when in a relaxed state under no external stress and being elastically deformable away from the nominal shape, each structural strand further being adapted to be altered, in response to an application of a force exceeding a yield stress of the structural strand, to acquire a selected curved nominal shape different from an original linear nominal shape in response to a controlled plastic deformation treatment prior to interbraiding, wherein the structural strands when in their selected curved nominal shapes form windings having tubular profiles; and

wherein the structural strands within said interbraiding further are oriented selectively to impart to the prosthesis structure a tubular predetermined nominal configuration corresponding to said tubular profiles.

70. (New) The prosthesis of claim 69 wherein:

the strands of said interbraiding further include a plurality of textile strands more compliant than the structural strands, interbraided with the structural strands, supported by the

structural strands, occupying interstices between adjacent structural strands, and cooperating to form a textile sheeting that prevents any substantial leakage of body fluids including blood.

71. (New) The prosthesis of claim 69 wherein:

the selected nominal strand shape of each structural strand is helical.

72. (New) The prosthesis of claim 69 wherein:

the structural strands cooperate to form a latticework including first and second sets of helices running in respective first and second opposite directions.

73. (New) The prosthesis of claim 69 wherein:

said structural strands are formed of a metal selected from the group consisting of: stainless steel, an alloy including cobalt, and an alloy including titanium.

74. (New) The prosthesis of claim 73 wherein:

the structural strands are formed of a cobalt-chromium-molybdenum alloy.

75. (New) The prosthesis of claim 69 wherein:

the structural strands are monofilaments.

76. (New) The prosthesis of claim 70 wherein:

said textile strands are multifilament yarns formed of a material selected from the group consisting of: PET, polypropylene, polyurethane, polycarbonate urethane, HDPE, polyethylene, silicone, PTFE, ePTFE, and polyolefin.

77. (New) The prosthesis of claim 70 wherein:

said interbraiding of the structural strands and the compliant textile strands consists essentially of a single layer.